

# BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

## POSTOPERATIVE TREATMENT FOLLOWING ABDOMINAL OPERATIONS

LE ROY BROOKS, SAN FRANCISCO.—In the light of advances in physiology of the gastro-intestinal tract and the practical contributions of biochemistry, postoperative treatment is coming more and more to occupy the position it has long merited. Proper postoperative treatment is begun by preoperative preparation of the patients. Except when emergencies exist, all patients should have rest in bed eighteen to twenty-four hours before operation, adequate supply of food, an abundance of carbohydrates in order that the liver may store up glycogen for the pending call, fluids plentifully for several days and *no cathartics*. When obstruction to hollow viscera exists, good judgment often dictates that the operation be done in two or more stages. Modern surgery does not admit of a multiplicity of major procedures at one sitting, regardless of the deftness of the surgeon.

The type of anesthetic administered also influences the convalescence. Nitrous oxid and oxygen supplemented by nerve block or local infiltration with  $\frac{1}{2}$  per cent novocain solution without adrenalin, is the present choice if great relaxation is not required. Ether may be added for relaxation, but is borne poorly by patients suffering from intestinal ileus, obstruction to the bile tract with hepatitis, starvation or prolonged general sepsis. This latter group of patients will be given a much better chance of recovery with spinal anesthesia with the small needles as advocated by Pitkin and others, and with attention to physiological details in controlling blood pressure. Finally, an a-traumatic technique is always imperative and consistent with finished and gentle work—the shorter the operation, the better for the patient.

Following any opening of the peritoneal cavity with a minimum of trauma, enough irritation to the peritoneum is produced to cause nature, to attempt to put the gastro-intestinal tract at rest. Therefore, nothing should be given by mouth for the first twenty-four hours—or better, forty-eight hours—after the simplest abdominal operation. If the patient has had sufficient amount of carbohydrates and fluids preoperatively, further fluids are not required in the average case for forty-eight hours. In an uncomplicated case, after thirty-six hours, tap water may be allowed by mouth in sparing quantities; fruit juices, etc., on the third or fourth day. If nausea occurs it usually means that fluids have been given too soon or in too large quantities, and all fluids by mouth should be immediately discontinued and, if vomiting persists, the stomach should be washed with sodium chlorid solution. Giving chipped ice for the first few

days following an operation is mentioned here only to condemn it as it leads to more discomfort than relief to the patient. When enemata or colon flushes return liquid feces containing bile, then—and not until then—is the patient's gastro-intestinal tract ready for semisolid or solid foods. Morphin should be used to control pain, but not every three or four hours regardless of pain, and is not indicated when pain is due to distension.

If, however, the operation is done as an emergency, fluids may be furnished by injection of normal salt solution, both during the operation and for the required time afterwards. Glucose in 10 per cent solution may be injected intravenously if proper precautions are exercised. The 10 per cent glucose can be made up in normal salt solution if the solution is not heated after mixing and the added advantage of the sodium chlorid is secured. Five per cent glucose in normal salt solution may be injected subcutaneously or into the muscles of the outside of the thigh without fear of necrosis or more than the usual amount of irritation caused by normal salt. Normal salt solution may be given by rectal instillation or a rectal drip, but there is a difference of opinion as to the amount of glucose absorbed and utilized from such practice.

In peritonitis or intestinal obstruction often the stomach must be washed frequently and a life-saving procedure consists of passing a duodenal—or some other small tube—into the stomach and bringing the upper end through the nose, connecting it with other tubing which leads into a basin at the side of the bed. The patient may then drink water at will, which will, by siphonage, return through the tube and automatically wash the stomach. Doctor Ward has described an ingenious tube for this purpose with a Connell suction principle, but if such a tube is not available, a Rehfs tube is adequate. From 3000 to 5000 cubic centimeters of glucose and salt solution must be injected daily to meet the tissue and blood chemistry requirements in these cases until the intestinal tract resumes its function. There is a tendency in such patients to develop acidosis or alkalosis, retention of urea and nonprotein nitrogen, a hypochloremia and dehydration. Fortunately all of these indications may be properly met by the injection of a sufficient quantity of glucose and normal or 2 per cent salt solution. These solutions may be injected subcutaneously, intramuscularly and intravenously, and it is desirable, but not obligatory, to have reports from the blood chemistry laboratory to give the solutions.

The time for the removal of drains depends upon the type of case. If drainage is direct and the abscess is not far removed from the surface

with large enough external opening not to interfere with the escape of pus and debris, the drain should be removed not later than the third or fourth day. Drains in nonlocalized peritonitis are of questionable value, and if used at all should be removed at the end of twelve to twenty-four hours. Undressed hard rubber tubes should not be used as drains because they cause hemorrhage and intestinal fistulae from pressure necrosis. As a general rule the tendency in regard to drainage in peritonitis is to leave the drains within the peritoneal cavity too long, rather than to take them out too soon.

If silkworm gut tension stitches are used the deep layers of a suppurating wound may slough and separate and the pressure upon these stitches by the bulging distended intestine will lead to pressure necrosis and intestinal fistula. All such stitches, if used, should be removed within the first few days when infection exists. The wound may be held together by adhesive.

Secondary abscesses within the peritoneal cavity rarely develop and will often break into the drainage channel or can be reached with a curved Mayo hemostat without the necessity of a second operation if the surgeon does not become impatient. The exception to this is extremely rare.

Abdominal distension in peritonitis is distressing to both patient and surgeon and the latter may get panicky and give irritating enemata, pituitrin, spinal anesthesia, etc., in an attempt to get relief. He may obtain temporary relief, but will find his patient in a worse condition a few hours later because of having stirred up the sick intestines. In peritonitis if the distension cannot be relieved by colon flushes, mild enemata and hot compresses to the abdomen, the more drastic measures are not indicated. These patients occasionally present a duplex obstruction—one in the sigmoid and the other in the small intestine, when the bowels are adherent together in the pelvis. When this occurs, a simple jejunostomy done early under local anesthesia in the patient's bed will drain the upper small intestine, but the patient may succumb to the second obstruction unless a cecostomy is done to drain the lower loops of small intestine and the colon.

These remarks are concluded with an appeal for rest of the gastro-intestinal tract to aid the natural processes of repair following abdominal surgery.

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THOMAS O. BURGER, SAN DIEGO.—Doctor Brook's article seems to call for the old stereotyped beginning of a discussion, namely, "I want to approve most heartily of all the doctor has said, and only wish to emphasize the points he has made in his discussion."

He has very properly started the discussion of postoperative complications or conditions by beginning with preoperative preparation, which is now admitted to be the greatest benefit we have toward preventing postoperative distress or complications.

There is no question but that the improved conditions and the preparatory treatment at the

present time, or, you might say the lack of it, has had a great deal to do with helping to keep the physiological function of the gastro-intestinal tract in a better or worse condition for surgical onslaught.

The other emphasis I should like to mention is the use of spinal anesthesia, which has been found to be, more than any other single procedure, the greatest blessing to the patient following abdominal surgery. We have found during the past few years that it lessens the discomfort, the pain, and the various complications following abdominal operations. It means that nontraumatic procedures to the abdominal contents can be carried out as they have never been done before with a general anesthesia. There is less gas, less possibility of ileus, fewer adhesions in the future, and many other features that might be noted.

I am also and have been making for quite a few years an effort to lessen the disaster of embolus, which is an ever-present danger, and I have carried out the procedure to some extent that Walters has been having good results with, and regarding which he has recently written a number of articles, *i. e.*, keeping the blood pressure up and preventing stagnating blood currents by improving the force and activity of the circulation by the moving of the body, particularly the limbs at frequent intervals. Also keeping up the circulation if necessary by giving ephedrin occasionally, and possibly by giving a full tolerance of thyroid extract, and doing everything that is possible to keep the circulation active.

We do not put adhesive or tight binders about the upper abdomen which may interfere with free and full respiration, and insist that the nurse make the patient breathe fully at very frequent intervals. This also probably helps to prevent occasional atelectasis.

A small point that we insist upon (which makes the patient and some of the profession smile) is that all postoperative patients regularly chew gum. We believe that it has a benefit in keeping the mouth in a better condition. Patients swallow the saliva and a slight amount of secretion. It is not an objectionable feature, and we believe particularly that it will have a beneficial effect in preventing that occasional and distressing complication, namely, parotiditis.

We do not give purgatives following surgery; but as soon as the patient will tolerate it, generally the second or third day, we administer large doses of paraffin oil or some of the combinations of paraffin oil. We believe the oil aids in establishing a quicker physiologic function of the bowel by lubrication.

I think that morphin is a godsend to the majority of these patients, but its use should not be abused. If a sufficient amount is given, I do not believe that any serious injury results.

Hiccough is a distressing condition, particularly so following semi-infectious or peritonitis cases. For this there are many treatments used, but we have found the most effective method for the control of this distressing condition to be the inhalation of carbon dioxid gas.

Too little attention has been given in the past to those increasing numbers of patients who unnecessarily complain of "adhesions" as a cause for their numerous and varied complaints which develop postoperatively.

Proper coöperation on the part of the surgeon and internist in treatment, both physical and in the restitution of normal physiologic functions, will certainly do much toward eliminating this complaint, or at least it will keep many of those seeking relief from this complaint out of the hands of quacks.

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GEORGE H. SANDERSON, STOCKTON.—Doctor Brooks' paper presents a brief review of post-operative treatment following abdominal operations which embodies a most modern viewpoint and a most rational method. In discussing it, I can only emphasize certain points, and add but little.

Postoperative treatment to be rational must be simple—I can see no need of too complicated or too stereotyped a regime. Rest is the keynote in the treatment, and disturbing elements should be as easily and simply combated as possible in order that the keynote may be struck and maintained. A patient has often about all the treatment he can stand on the operating table—he should therefore not be overtreated postoperatively, and especially during the first few days should be disturbed as little as possible.

I am giving morphin in much smaller doses than formerly, and find that the tolerance of different individuals for this drug varies enormously—the only safe way, then, is to use small doses first and then increase if necessary. Very often the preoperative hypodermic may be omitted entirely.

I have gotten used to digitalizing patients before goiter operations, and I think this could also be done more in abdominal surgery than it is. It would be an advantage, especially in the flabby-obese, biliary and pancreatic cases, who often have a myocardial impairment which stands the operation but which is a factor in postoperative distension and complications dependent in part on circulation, such as pneumonia and embolism. If there has been no opportunity to do this preoperatively, a dram of the tincture may be given by rectum in four ounces of tap water just following operation.

Both dehydration and alkalosis are best combated by the administration of salt solution either by hypodermoclysis or intravenously, and where much blood is lost, this is best done on the table during the anesthetic. When done afterwards it disturbs the patient both physically and psychically to some extent, although this should not discourage its use where it is really necessary. Except in operations on the stomach or duodenum, I can see no objection after a few hours in giving small amounts of water by mouth when it is tolerated, but it should not be either hot or cold. At moderate temperatures, it does not seem to cause peristalsis, and is rapidly absorbed if the stomach is not upset. The Murphy drip method is

irritating to many patients and interferes with their rest. Normal salt solution may be given by rectum as a retention enema of four to six ounces every few hours with very little disturbance to the patient.

Where there is any tendency to gastric dilatation, lavage should be performed, and in extreme cases, continuous drainage, as advocated by Dr. Robertson Ward. Gas enemas and pituitrin should be used only rarely, but are effective occasionally in selected cases. More often the rectal tube alone will suffice.

Drains should be soft, and used only when definitely indicated. If intended to remove post-operative blood or tissue fluid oozing, they should be removed in from twenty-four to forty-eight hours. If there is positive infection, they often save the incision from breaking down, and less frequently actually drain any considerable amount of pus from the depths of the peritoneal cavity where it usually occurs. Where there is doubt, the drain may be removed slowly, a small piece being cut off once a day until the whole drain is removed. The majority of even badly infected cases will get along without any drainage at all, but a safety-valve is certainly more of a boon than a menace.

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Another Experiment in Middle-Class Medical Care. In February 1930, the trustees of the Massachusetts General Hospital will open a new unit called the Baker Memorial. The Rosenwald Fund Committee has agreed to underwrite one-half of the deficit in operation of this hospital during its first three years up to a maximum of \$150,000, with the understanding that the deficit will not exceed \$75,000 in any one year. The Baker Memorial has been designed for the care of sick people of moderate means. It is pointed out in the Massachusetts General Hospital News that the care of the sick in this unit will include voluntary curtailment of the physicians' fees so that those entering the institution will pay a maximum fee of \$150 for any illness or operative care and that the maximum fee for uncomplicated obstetric service and hospital care will be \$100. Only members of the staff of the Massachusetts General Hospital and of the Charitable Eye and Ear Infirmary and the obstetric staff will be permitted to practice in this institution. This hospital has been definitely planned and constructed, and is to be quite definitely operated, as a middle-class institution. The employment of special nurses will be discouraged. Ward maids, nurses' helpers, and floor clerks will be utilized so that nurses will devote all their time to actual bedside nursing. A special social service department will control the class of patients to be admitted. The institution will have 333 beds, part of which will be used at first for the interns and nurses, since special buildings for this purpose have not yet been provided. There are to be eighty-eight beds in single rooms, twenty-four beds in two-bed wards, twenty-eight beds in four-bed wards, and eighteen beds in cubicles. For obstetric patients there will be twelve beds in single rooms, six beds in two-bed wards, and eight beds in four-bed wards. Private rooms will cost \$6 a day, cubicle beds \$4 a day, and the two-bed and four-bed wards will vary between these figures. Nursing, food, and ordinary drugs are included in this price. Special fees will be charged for laboratory work and for roentgen-ray work. It will be interesting to see whether this experiment can operate successfully and pay its own way. The fees are not apparently much greater or much less than those charged today in most of the hospitals in the United States.—*Journal of the American Medical Association.*